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BOTANY.—*New plants from Central America.*—VIII. PAUL C. STANDLEY, U. S. National Museum.<sup>1</sup>

The eighteen plants here described as new are chiefly Costa Rican, and the greater part of them are based upon material collected by the writer. Many of these new species belong to the Araceae and Bromeliaceae, families in which the Costa Rican flora is exceptionally rich. Worthy of special note is the new *Gynandropsis* described from Costa Rica. This plant is strikingly beautiful because of its red flowers, and is well worthy of cultivation for ornamental purposes.

***Anthurium tilaranense* Standl., sp. nov.**

Plant epiphytic, the caudex very short or elongate, the internodes abbreviated, the cataphylls weathering into coarse persistent fibers; petioles 15–20 cm. long, slender, shallowly sulcate on the upper side, geniculate 1.5–2 cm. below the base of the blade; leaf blades firm-coriaceous, green, glabrous, deeply 3-lobed to within 3.5 cm. of the base, 16–22 cm. long and of equal or greater breadth, the basal lobes 11–14 cm. long, oblong, 2.5–4 cm. wide, rounded at apex, convex on the lower margin, concave on the inner, the terminal lobe narrowly oblong, 16–22 cm. long, 3–5.5 cm. wide, abruptly narrowed to the cuspidate-acuminate apex, the 2 basal nerves divergent at an angle of about 80 degrees, margined to the base, the secondary nerves of the terminal lobe about 17 on each side, ascending at an acute angle, anastomosing remote from the margin to form a conspicuous collective nerve, all the nerves slender but prominent beneath; peduncles 7–15 cm. long; spathe oblong or ovate-oblong, 3–7 cm. long, 1.2–2.5 cm. wide, green, rounded and cuspidate at apex, united for about 1.5 cm. with the peduncle; spadix sessile, cylindric, rounded at apex, very densely many-flowered, 4–7 cm. long, 6–12 mm. thick, green or reddish.

<sup>1</sup> Published by permission of the Secretary of the Smithsonian Institution. For the last preceding paper of this series see page 159 of this volume of The JOURNAL. Received March 23, 1927.

Type in the U. S. National Herbarium, no. 1,254,577, collected on tree in moist forest at Quebrada Serena, southeast of Tilarán, Guanacaste, Costa Rica, altitude about 700 meters, January 27, 1926, by Paul C. Standley and Juvenal Valerio (no. 46310). Collected also at Los Ayotes, near Tilarán, *Standley & Valerio* 45586.

In general appearance as well as in technical characters this plant resembles Engler's illustration<sup>2</sup> of *A. denudatum* Engler, a Colombian species. In that, however, the leaves are essentially different, the lateral lobes being reflexed rather than directed forward, as in the Costa Rican plant. *Anthurium tilaranense* is strikingly different in foliage characters from any other species known from Central America.

#### *Anthurium hypoleucum* Standl., sp. nov.

Petioles about 18 cm. long and nearly 1 cm. thick, shallowly sulcate above, geniculate at apex; leaf blades narrowly lance-oblong, 47–55 cm. long, 11–13 cm. wide, narrowed from below the middle to the obtuse apex, rounded at base, thick-coriaceous, green above, glaucous beneath, the costa very stout and prominent, the main lateral nerves slender but prominent, about 22 on each side, anastomosing to form a conspicuous collective nerve about 1 cm. from the margin; peduncle 30–50 cm. long, stout; spathe green, ovate-oblong, 2.5–4 cm. long, 1.5–2 cm. wide, cuspidate-acuminate; spadix in anthesis cylindrical, sessile, slightly narrowed upward, 5.5 cm. long, 9 mm. thick, very densely many-flowered.

Type in the U. S. National Herbarium, no. 932125, collected on rocks at Santa Rosa, Guatemala, altitude 1,600 meters, April, 1908, by H. von Tuerckheim (no. II.2214). Collected also at Mazatenango, Guatemala, November, 1914, *R. Tejada* 306.

The strongly glaucous lower surface of the leaves is a character not found in any other Central American *Anthurium* with which I am familiar.

#### *Pitcairnia Valerii* Standl., sp. nov.

Leaves unknown, only the inflorescence at hand; inflorescence paniculate, long-stalked, the panicle about 60 cm. long, twice branched, glabrous throughout, the branches few, the lowest about 17 cm. long; rachises slender, smooth, terete, many-flowered, the internodes 4–10 mm. long; primary bracts withered and fallen; bractlets lanceolate, greenish, scarious-margined, much shorter than the pedicels, their margins free but often involute about the pedicel; pedicels 5–7 mm. long, the flowers deflexed; inferior portion of ovary turbinate, 4–5 mm. long, usually bluntly verruculose; sepals lanceolate, about 9 mm. long and 3 mm. wide, long-acuminate, green, glumaceous, with scarious margins; petals eligulate, linear, 2 cm. long, red, obtuse or acutish; stamens slightly shorter than the petals; stigmas exceeding the petals; free portion of the capsule lanceolate, 1.5 cm. long, subulate-attenuate; seeds very numerous, brownish, filiform, about 6 mm. long.

Type in the U. S. National Herbarium, no. 1,306,886, collected on steep bank at La Hondura, Province of San José, Costa Rica, altitude about 1,500 meters, March 9, 1926, by Juvenal Valerio (*Standley* 51879).

<sup>2</sup> Pflanzenreich IV. 23B: 263. 1905.

The plant grew in such a difficult situation that the leaves could not be reached, and it was only with considerable risk that the inflorescence was secured. The species belongs to Mez's section *Eligulatae*, and is perhaps related to *Pitcairnia nuda* Baker, of British Guiana.

*Pitcairnia flaviflora* Standl., sp. nov.

Plants terrestrial or epiphytic; petioles about 25 cm. long, slender, the margins densely armed below with slender, divaricate, dark brown spines 2-3 mm. long, the upper part of the petiole with few distant minute teeth; leaf blades oblanceolate, about 65 cm. long and 9.5 cm. wide, acute, long-attenuate to the base and decurrent upon the petiole, thin, glabrous or nearly so; inflorescence about a meter high, simple, the flowers secund, sessile or on very short, thick pedicels, forming a dense spike 30 cm. long, the rachis obscurely tomentose; bracts large, soon withering, membranaceous, slightly tomentulose, covering the buds; sepals distinct, symmetric, equal, lanceolate, 3 cm. long, thick, long-attenuate to a subulate tip, dark red, slightly tomentulose above; petals orange, glabrous, narrowly spatulate, 4.5 cm. long, 8-11 mm. wide, near the base 4 mm. wide, obtuse or rounded at apex, eligulate; filaments 3.3 cm. long, the anthers 1 cm. long.

Type in the U. S. National Herbarium, no. 1,226,103, collected at La Palma, Province of San José, Costa Rica, altitude about 1,600 meters, February 3, 1924, by Paul C. Standley (no. 33091).

The orange color of the petals distinguishes this species from most of those known from Central America.

*Tillandsia guanacastensis* Standl., sp. nov.

Plants epiphytic, solitary, 15-17 cm. high, the scape 7-9 cm. long; leaves very numerous, densely rosulate, the inner ones 7-18 cm. long, the outer shorter, erect or recurved, somewhat inflated at base, the sheaths 2-3 cm. wide, abruptly or gradually narrowed into the long-attenuate blades, subulate at apex, grayish, densely covered with closely appressed scales; inflorescence equaling or slightly surpassing the leaves, flabellate, composed of 2 or 3 clustered spikes; spikes 3-5 cm. long, 12 to 19-flowered, dense, distichous, the bracts and flowers inserted obliquely; bracts coriaceous, about 4 mm. long, green, rounded on the back, sparsely whitish-lepidote, obtuse or rounded at apex, shorter than the sepals; flowers sessile; sepals broadly elliptic, asymmetric, 5 mm. long, rounded at apex, glabrate but very sparsely and obscurely lepidote; capsules cylindric, 18 mm. long and 2.5 mm. thick, apiculate; seeds pale brown, 2 mm. long, the hairs white, 1 cm. long.

Type in the U. S. National Herbarium, no. 1,254,424, collected in moist forest at La Tejona, north of Tilarán, Guanacaste, Costa Rica, altitude about 650 meters, January 25, 1926, by Paul C. Standley and Juvenal Valerio (no. 46045). Collected also in the same general region, at Naranjos Agrios, *Standley & Valerio* 46391.

Closely related to *T. Tonduziana* Mez, also Costa Rican, but in that species the inflorescence is pinnate and much elongate, and the sepals and bracts coarsely brown-furfuraceous.

*Tillandsia orthiantha* Standl., sp. nov.

Plants epiphytic, solitary, about 30 cm. high, acaulescent; leaves numerous, densely rosulate, mostly 20–28 cm. long, erect or ascending, conspicuously inflated at base; sheaths about 7 cm. long and 5.5 cm. wide, brown, thin, abruptly contracted into the blades, these 1.5–2 cm. wide just above the sheath, long-attenuate to a slender involute-subulate tip, grayish, densely covered with minute, whitish, closely appressed scales; inflorescence exceeding the leaves, the cauline bracts loosely inflated, much exceeding the internodes, erect; inflorescence twice pinnate, 7–8 cm. long, dense, the primary bracts ovate, 2–3 cm. long, equaling or exceeding the spikes, acuminate, thin, brown, densely and coarsely brown-furfuraceous; spikes approximate, 6–10, distichous, about 12 mm. wide and 2 cm. long or shorter, 3 to 8-flowered, the flowers and bracts obliquely inserted, the spikes erect or strongly ascending; bracts 5–7 mm. long, shorter than the sepals, obtuse, rigid, brown-furfuraceous; sepals asymmetric, oval, 5 mm. long, rounded at apex, rigid, brown-furfuraceous, the inner one keeled dorsally; capsule terete, 2 cm. long, subulate-acuminate, glabrous, the valves 5 mm. wide; seeds brown, 1.5–2 mm. long, the white hairs 1.5 cm. long.

Type in the U. S. National Herbarium, no. 1,252,715, collected in wet forest at Laguna de la Chonta, northeast of Santa María de Dota, Province of San José, Costa Rica, altitude 2,100 meters, December 18, 1925, by Paul C. Standley (no. 42312). No. 42348, from the same locality, represents the same species.

This *Tillandsia*, also, is close to *T. Tonduziana* Mez, but in that the pinnate inflorescence is elongate and open, its rachis flexuous (not thick and straight, as in *T. orthiantha*), and the branches usually reflexed.

*Renealmia erythrocarpa* Standl., sp. nov.

Plants small, 60–120 cm. high, slender, leafy, the stems solitary or clustered, arising from slender rootstocks; lowest sheaths without blades, somewhat puberulent; upper sheaths glabrous or nearly so, nerved, the auricles extended about 2 mm. beyond the sheath; naked portion of the petiole about 1 cm. long; leaf blades small, lance-oblong, 11–16 cm. long, 2–4 cm. wide, long-acuminate, acute at base, thin, green on both surfaces, glabrous; panicles several, rising from the rootstock, ascending, the slender peduncle 5.5 cm. long, the bracts suberect, 1.5 cm. long, the inflorescence 2–3 cm. long, densely few-flowered, the rachis slightly flexuous, hirtellous, the bracts lanceolate, 1–1.5 cm. long, green, hirtellous, attenuate; flower clusters 2 or 3-flowered, the pedicels 2–3 mm. long; calyx in fruit about 7 mm. long, puberulent; fruit scarlet, lanceolate in outline, glabrous, about 18 mm. long and 6 mm. thick near the base, attenuate to the apex, finely costate; seeds about 12, truncate at one or both ends, grayish, about 3 mm. long.

Type in the U. S. National Herbarium, no. 1,254,613, collected in moist forest at Naranjos Agrios, near Tilarán, Guanacaste, Costa Rica, altitude about 700 meters, January 29, 1926, by Paul C. Standley and Juvenal Valerio (no. 46373).

Related to *R. humilis* (A. Rich.) Peters., which has been found in Panama, but in that species the leaves are much narrower, and the globose fruit scarcely half as long and few-seeded.

*Renealmia concinna* Standl., sp. nov.

Plants 1.5 m. high or smaller; leaf sheaths scaberulous-puberulent, many-nerved, the petioles usually obsolete; leaf blades oblanceolate, 30–50 cm. long, 5.5–7.5 cm. wide, acute or acuminate, long-attenuate to base, thin, green and glabrous above, beneath slightly paler, sparsely and minutely pilose with slender spreading hairs; panicles erect, arising from the base of the plant, the peduncle slender, 9 cm. long or more, pubescent, the bracts erect, scarious, much shorter than the internodes; inflorescence 13 cm. long and 2–3 cm. broad, interrupted, the rachis puberulent, the bracts oblong-ovate to lanceolate, 1–1.5 cm. long, thin, puberulent, deciduous, inconspicuous; flower clusters dense, 4 or 5-flowered, the peduncle 2–3 mm. long, the bractlets ovate, acute, about 8 mm. long, the pedicels puberulent, in fruit up to 5 mm long; calyx green, 5 mm. long, puberulent, the 3 lobes rounded; fruit globose, 7 mm. long, red, costate, thinly puberulent; seeds about 4, 3–4 mm. long, very irregular, brown.

Type in the U. S. National Herbarium, no. 1,227,906, collected in wet forest at Guápiles, Province of Limón, Costa Rica, altitude about 300 meters, March 12, 1924, by Paul C. Standley (no. 37355). No. 37511 from the same locality belongs to the same species.

*Renealmia mexicana* Klotzsch is closely related, but differs in its more lax inflorescence, glabrous ovary, and more numerous seeds.

*Renealmia densiflora* Standl., sp. nov.

Plants large, 1.5–2.5 m. high; leaf sheaths brownish, thin, many-nerved, minutely puberulent or glabrate; petioles obsolete; leaf blades oblong-obovate, 25–60 cm. long, 9–17 cm. wide, rounded and caudate-cuspidate at apex, acute at base, thin, green and glabrous above, slightly paler beneath and minutely pilose; inflorescence arising from the base of the plant, erect, 35–90 cm. high, the peduncle finely pubescent, stout, striate, the sheaths broad, inflated, rounded at apex, puberulent, erect, shorter than the internodes, often less than half as long; panicles cylindric and very dense, 7–14 cm. long, 3–4.5 cm. thick, the bracts reniform or rounded-ovate, about 1.5 cm. long and usually broader, rounded or apiculate at apex, green, firm, puberulent or glabrate, persistent; flower clusters sessile, few-flowered, very dense, the flowers sessile or nearly so; bractlets lance-oblong; ovary densely puberulent; calyx red, 6 mm. long, deeply 3-lobed, the lobes ovate, obtuse, puberulent or glabrate; fruit subglobose, glabrate, 5–6 mm. long, finely costate; seeds 6, subglobose, brown, 2.5 mm. long.

Type in the U. S. National Herbarium, no. 1,227,705, collected in wet forest at La Colombiana Farm, Province of Limón, Costa Rica, altitude about 70 meters, March 7, 1924, by Paul C. Standley (no. 36944). The following additional collections are referred here:

PANAMA: Around Dos Bocas, Río Fató Valley, Province of Colón, alt. 40–80 m., *Pittier* 4213. Forests around Puerto Obaldía, San Blas coast, at sea level, *Pittier* 4327.

*Renealmia exaltata* Lf. is distinguished from the present plant by its larger size, ampler inflorescence, and the very large bracts of the scape. *R. mexicana* Klotzsch is similar in habit, but has an open inflorescence, glabrous ovary, and more numerous seeds.

*Pittier* reports the vernacular name "mata Andrea" from Puerto Obaldía.

*Calathea cleistantha* Standl., sp. nov.

Leaves all arising from a short thick rootstock; sheaths 18 cm. long, narrow, green, glabrous, attenuate to apex; petioles about 4.5 cm. long, slender, glabrous; leaf blades elliptic-oblong, asymmetric, about 25 cm. long and 9.5 cm. wide, abruptly, obliquely, and shortly cuspidate-acuminate, acute at base and abruptly decurrent upon the petiole, thin, green on both surfaces, glabrous; spikes ascending, about 3 cm. long and 1.5 cm. broad, arising directly from the rootstock on a peduncle 1.5 cm. long, this covered by the large thin bracts borne at its base; bracts of the spike about 5, erect, crowded, ovate or lance-ovate, acuminate, about 3 cm. long, whitish, glabrous or nearly so, somewhat distichous; flowers 4 in each bract, sessile, the bractlets linear, 2.5 cm. long; ovary glabrous; sepals linear, glabrous, 2.5 cm. long; corolla dark red-purple, 3 cm. long.

Type in the U. S. National Herbarium, no. 1,229,179, collected in wet forest near Guápiles, Province of Limón, Costa Rica, altitude about 400 meters, March 12, 1924, by Paul C. Standley (no. 37114).

I have seen no material of *C. Pittieri* Schum., described from the same general region but, judging from the description, it is closely related to the present plant. *C. Pittieri* is described as being much larger, more than a meter high, with decumbent spikes having internodes as much as 5 cm. long.

*Calathea marantifolia* Standl., sp. nov.

Plants small, about 60 cm. high, very slender, leafy, the leaves about 6; sheaths green, thin, slightly puberulent or glabrate, attenuate to apex; petioles slender, 7 cm. long or less, glabrous, the callous 1.5 cm. long; leaf blades lance-oblong, about 19 cm. long and 4.5 cm. wide, acuminate, at base acute, thin, green on both sides, very minutely puberulent beneath, especially on the costa; leaf at base of the inflorescence sessile except for the callous, the blade 12 cm. long; spike ellipsoid, 2.3 cm. long, 1.5 cm. wide, the peduncle 9 cm. long, puberulent above; bracts about 5, spirally arranged, yellowish green, appressed-pilose, about 18 mm. long, rounded at apex, finely nerved.

Type in the U. S. National Herbarium, no. 1,254,038, collected in wet forest at El Arenal, Province of Guanacaste, Costa Rica, altitude 485 meters, January 18, 1926, by Paul C. Standley and Juvenal Valerio (no. 45310).

This may be only a reduced form of *C. macrosepala* Schum., but that is normally much larger in all its parts, with proportionately broader leaves and more numerous bracts.

*Stellaria nubigena* Standl., sp. nov.

Prostrate or procumbent perennial, forming loose clumps or mats, the stems numerous, slender, 4-15 cm. long, glabrous, often densely leafy, the internodes 5-15 mm. long; leaves narrowly lance-oblong to oblanceolate-oblong, 6-12 mm. long, 2-4 mm. wide, acute, with a somewhat callous tip, sessile or often narrowed to a short petiole-like base, thick and firm, 1-nerved, the costa stout, salient beneath, glabrous, but the petioliform base frequently villous-ciliate, sometimes densely so; flowers mostly axillary and solitary, sometimes in 2 or 3-flowered cymes, the pedicels erect or ascending, 7-10 mm. long, glabrous; sepals 5, narrowly lance-oblong, 2 mm. long (in fruit nearly 3 mm. long), attenuate-acuminate, glabrous, stiff, erect, green, the margins

scarious and whitish; petals white, shorter than the sepals; styles 3; capsule ovoid, obtuse, equaling the sepals, 6-valvate, the margins of the valves recurved; seeds about 10, reniform-globose, slightly compressed, brown, granular.

Type in the U. S. National Herbarium, no. 1,229,094, collected on wet bank on the southern slope of Turrialba Volcano, near the Finca del Volcán de Turrialba, Costa Rica, altitude about 2,300 meters, February 22, 1924, by Paul C. Standley (no. 35344). The following collections also are referable to this species:

COSTA RICA: Las Nubes, Province of San José, alt. 1,500–1,900 m., *Standley* 38736, 38829, 38784.

Only four other species of *Stellaria* are known from Central America. All of them differ from the plant here described in having ovate to deltoid leaves and villous or glandular pedicels.

### *Sisymbrium costaricense* Standl., sp. nov.

Coarse erect annual, about a meter high, glabrous throughout (so far as specimens show; base of plant not seen), much branched, the branches green, terete, smooth; leaves sessile and clasping by a deeply cordate base, the auricles rounded; stem leaves lance-oblong, the largest 16 cm. long and 3 cm. wide, the upper much reduced, long-attenuate to the obtuse or acutish apex, finely, inconspicuously, and irregularly denticulate, deep green above, glaucescent beneath; racemes very long, laxly flowered; pedicels in anthesis 2–3 mm. long, in fruit up to 6 mm. long, stout, spreading or obliquely ascending, only the lowest subtended by leaflike bracts, the others naked; sepals oval-oblong, obtuse, 2.5 mm. long, green, with thin purplish margins; petals oblong, whitish, scarcely equaling the sepals; stamens shorter than the petals; pods sessile, 2.5–3 cm. long, over 1 mm. thick, straight, standing at almost a right angle to the rachis, the beak 2 mm. long; seeds compressed, pale brown.

Type in the U. S. National Herbarium, no. 1,252,847, collected in moist thicket near El Copey, Province of San José, Costa Rica, altitude about 2,000 meters, December 22, 1925, by Paul C. Standley (no. 42548). The following collections also may be cited:

COSTA RICA: Cornfields near El Copey, alt. 1,800 m., *Tonduz* 12190.

PANAMA: In coffee plantation near El Boquete, alt. 1,200–1,300 m., *Pittier* 3058.

At one time I referred this plant to *S. turritoides* Loes., a Mexican species, but better material shows that it is clearly distinct. *S. turritoides* has longer, nearly erect pods and larger flowers.

### *Sisymbrium guatemalense* Standl., sp. nov.

Plants glabrous (lower part of plant not seen), the branches terete, smooth, tinged with purple; cauline leaves longer than the internodes, sessile and clasping by a deeply cordate base, the auricles rounded, the blades thin, oblong, about 6 cm. long and 1.2 cm. wide, the uppermost smaller, acute or short-acuminate, remotely and minutely repand-denticulate, green above, glaucescent beneath; racemes naked, elongate, rather densely flowered; pedicels 4–6 mm. long, slender, divaricate or slightly ascending; sepals oval, obtuse, 2 mm. long, purplish; petals shorter than the sepals; stamens equaling the sepals; pods strongly ascending, straight or slightly incurved, terete,

8–15 mm. long, slightly over 1 mm. thick, narrowed at apex to a beak 1 mm. long, attenuate at base to a stipe 1 mm. long.

Type in the U. S. National Herbarium, no. 354938, collected at San Miguel Uspantán, Department of Quiché, Guatemala, altitude 2,000 meters, April, 1892, by Heyde and Lux (no. 3079).

Although related to *S. turritoides* and *S. costaricense*, this differs conspicuously in the very short pods, which are contracted into a stipelike base.

#### *Cleome panamensis* Standl., sp. nov.

Slender erect annual herb, about 30 cm. high, sparsely branched, the stems glabrate below, sparsely glandular-pilose above, the hairs short and inconspicuous; infra-axillary prickles 2 below each petiole base, yellowish, divaricate or recurved, scarcely 1 mm. long; leaves 3-foliolate, the petioles very slender, 2.5–6 cm. long, sparsely and minutely glandular-pilose; leaflets subequal, sessile or short-petiolulate (petiolule of terminal leaflet sometimes 3.5 mm. long), elliptic or obovate, 3–6 cm. long, 1.5–2.7 cm. wide, short-acuminate at apex or rounded and apiculate, the terminal leaflet acute at base, the lateral ones oblique, rounded on the outer side, very acute on the inner, thin, sparsely pilose along the nerves with short stiff spreading hairs, glabrate above, beneath paler, often with 1 or 2 minute weak prickles on the costa; racemes short-pedunculate, few-flowered, lax, in age as much as 5 cm. long, the bracts large and leaflike, the lowest 3-foliolate, the others simple, petiolate, the rachis sparsely glandular-pilose; pedicels in fruit 1.5 cm. long or less, very slender; flowers greenish, the sepals 2.5 mm. long, obtuse or acute, glabrous; petals 5 mm. long, short-clawed; gynophore glabrous, 3–4 mm. long; capsule terete, torulose, 4.5 cm. long, 2.5–3 mm. thick, glabrous, acute at base, long-beaked at apex; seeds globose-reniform, 2 mm. in diameter, pale brownish, smooth.

Type in the U. S. National Herbarium, no. 678347, collected at Maragantí, Panama, April 5, 1908, by R. S. Williams (no. 993). An imperfect specimen from Quiriguá, Guatemala (*Standley* 24290), probably is referable to the same species.

The most closely related species is *C. aculeata* L., which differs in having coarsely tuberculate and transverse-ridged seeds.

#### *Gynandropsis chiriquensis* Standl., sp. nov.

A large coarse herb or shrub, the branches thick, succulent, green, at first densely viscid-villous with short hairs and coarsely viscid-puberulent, finally glabrate; petioles slender, 9–16 mm. long, at first pubescent like the branches but soon glabrate; leaflets usually 7, unequal, oblong-lanceolate, mostly 6–19, cm. long and 1.2–3.8 cm. wide, long-attenuate to the acuminate apex, acute or attenuate at base, petiolulate, the petiolules 1 cm. long or shorter, dilated at base and united to form a disk, deep green above and sparsely viscid-puberulent, paler beneath, viscid-puberulent on the nerves; racemes short-pedunculate, naked, very dense, many-flowered, the rachis about 4 cm. long, puberulent, the pedicels slender, 9–14 mm. long, sparsely and minutely puberulent or glabrous; flowers nearly all sterile, no fertile ones seen; sepals unequal, lanceolate or lance-oblong, the larger ones 6–7 mm. long, narrowed to an obtuse apex, glabrous, green, with reddish margins; petals red, about 13 mm. long, glabrous, the blade obovate, rounded at apex, narrowed at base



to a long claw; stamens 6, 2.5 cm. long, glabrous, the anthers linear-oblong, 3 mm. long; androphore 2.5 mm. long.

Type in the U. S. National Herbarium, no. 1,269,418, collected along the Caldera River below Quiel, Chiriquí, Panama, March 16, 1911, by H. Pittier (no. 3145).

According to description, this plant is closely related to the Colombian *G. coccinea* Benth., of which no material is available for comparison. That species is described as glabrous, a term certainly not applicable to the present plant. The sepals also are described as smaller, and the androphore as longer.

#### *Gynandropsis pulcherrima* Standl., sp. nov.

Plants herbaceous or somewhat woody, 1-3 m. high, simple or sparsely branched, the young branches green, somewhat villosulous above, especially at the bases of the petioles, but soon glabrate; leaves 3-foliolate, the petioles slender, mostly 9-18 cm. long, sordid-puberulent or glabrate, usually roughened with minute whitish verruculose elevations; leaflets sessile or nearly so, lance-oblong to oblong-elliptic, 10-20 cm. long, 4-9 cm. wide, acuminate, acute or cuneately narrowed at base, the lateral leaflets oblique, green above, slightly paler beneath, usually puberulent beneath on the veins, elsewhere glabrous; racemes terminal or opposite the leaves, short-pedunculate, the rachis stout, 6 cm. long or shorter, covered with the large dense elevated scars left by the fallen pedicels, only a few flowers open at one time; flowers mostly sterile, only a few of the lower ones fertile (very often none of the flowers of a raceme fertile); pedicels slender, mostly 1.2-2 cm. long, glabrate; sepals very unequal, 5-10 mm. long, narrowly oblong to ovate, obtuse or acute, glabrate, green, sometimes red-margined; petals obovate, long-clawed, rounded at apex, glabrous, mostly 1.5-2 cm. long, varying from bright red to salmon or pinkish; torus 3-6 mm. long; stamens 6, about 3 cm. long, the anthers 3-3.5 mm. long; fruit terete, 7-13 cm. long, 6-12 mm. thick, fleshy, usually red, glabrous, obtusely contracted at apex, the stout style 2-3 mm. long, the stipe about 2 cm. long.

Type in the U. S. National Herbarium, no. 1,253,694, collected in wet forest near Tilarán, Guanacaste, Costa Rica, altitude about 650 meters, January, 1926, by Paul C. Standley and Juvenal Valerio (no. 44560). The following collections are referred here:

COSTA RICA: El Arenal, Guanacaste, alt. 500 m., *Standley & Valerio* 45103. Quebrada Serena, Guanacaste, alt. 700 m., *Standley & Valerio* 46159, 46222. La Hondura, Province of San José, alt. 1,500 m., *Standley* 37605. Las Nubes, Province of San José, *Standley* 38576. Near Finca La Cima, north of El Copey, Province of San José, *Standley* 42563, 42621. Santa María, Province of San José, alt. 1,600 m., *Standley & Valerio* 43129, 44101. Orosi, Province of Cartago, *Standley* 39741, 39827. La Estrella, Province of Cartago, *Standley* 39209.

This plant is frequent in the mountain forests of Costa Rica, although seldom abundant. It is one of the most handsome and showy plants of the region.

#### *Capparis Pittieri* Standl., sp. nov.

Branchlets green, subterete, when young finely stellate-pubescent but soon glabrate; petioles thick and stout, 3-4 mm. long, glabrate; leaf blades oblong,

7.5–17 cm. long, 3–7.5 cm. wide, abruptly short-acute, obtuse or rounded at base, subcoriaceous, when young closely stellate-tomentose on the upper surface but soon glabrous, the venation prominent, beneath paler, thinly stellate-pubescent with minute inconspicuous hairs; peduncles terminal, slender, 1.5–3 cm. long, finely stellate-pubescent, usually 3-flowered, the pedicels slender, erect, 1.7–2.5 cm. long, minutely stellate-tomentose with pale brownish hairs; sepals elliptic-oblong, 4–5 mm. long, obtuse, open in bud, stellate-tomentose; petals elliptic-oblong, 7–8 mm. long, obtuse or acutish, acute at base, sessile, thinly stellate-pubescent outside with whitish hairs; stamens numerous, the filaments very long and slender, glabrous, the anthers 1.5 mm. long; ovary ellipsoid, 2.5 mm. long, glabrous, the slender gynophore about 4 cm. long, glabrous.

Type in the U. S. National Herbarium, no. 578070, collected at Río Hondo, Costa Rica, altitude 50 meters, February 15, 1903, by H. Pittier (no. 16648).

This well-marked species is not closely related to any known from Central America. The specimens have been determined as *C. filipes* Donn. Smith, but that species, with its narrow, long-acuminate leaves, silvery-tomentose beneath, and its pendent inflorescence, has little in common with *C. Pittieri*.

BOTANY.—*Some Mimosaceae from Hispaniola.*<sup>1</sup> J. N. ROSE and E. C. LEONARD, U. S. National Museum.

Study of recent collections of *Mimosa* from Hispaniola resulted in the discovery of several little-known species and led us to revise this genus as represented in Hispaniola. There are now 7 recognized mimosas on the island, and one additional species still referred here which doubtless belongs elsewhere. This species, *M. angustifolia* Lam., was described rather fully in 1783, but so far as we can learn has not again been collected.

A new species of *Pithecolobium* has also been discovered among Dr. Abbott's collections.

In this connection we should like to call attention to the fact that there are ascribed to Hispaniola a number of Mimosaceae procured by the older collectors, which have not been found in recent times. One of these is *Inga filipes* Vent., described in 1803.

#### A NEW SPECIES OF PITHECOLOBIUM

#### *Pithecolobium Abbottii* Rose & Leonard, sp. nov.

Large tree, the younger branches densely brown-tomentose, unarmed; petioles 2 mm. long, brown-tomentose, glandular, the rachis 2 to 7 cm. long, brown-tomentose, glabrescent; pinnae 4 to 6 pairs, 1.5 to 4 cm. long, the leaflets 6 to 8 pairs, obovate or elliptic, 3 to 8 mm. long, 2 to 5 mm. broad, rounded and often shallowly emarginate at apex, narrowed or rounded at base, subsessile, chartaceous, convex, glabrous except for a small tuft of brownish

<sup>1</sup> Published by permission of the Secretary of the Smithsonian Institution. Received March 19, 1927.